

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## A2 CC1: Solving Radical Equations

Warm Up:

- 1) Match each of the following with its inverse:

Addition

Division

Multiplication

Square Rooting

Squaring

Subtraction

- 2) Rewrite  $\sqrt{3x}$  using fractional exponents.

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An equation that contains a **radical expression** is called a **radical equation**. We solve radical equations just like we solved other equations, by using \_\_\_\_\_.

Solve each of the following for all values of  $x$ .

1)  $\sqrt{x} = 4$

2)  $\sqrt{x} - 3 = 5$

3)  $\sqrt{x+8}=3$

4)  $2\sqrt{x-3}=6$

5)  $\sqrt{x-5}=-2$

6)  $x+4=\sqrt{x+10}$

## Steps to Solving Radical Equations:

1)

2)

3)

4)

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Practice Exercises:

1)  $3 = \sqrt{x-1}$

7)  $\sqrt{x+1} + 5 = 0$

2)  $\sqrt{\frac{x}{2}} = 2$

8)  $\sqrt{2-x} = x$

3)  $\sqrt{2x-3} = 5$

9)  $x-3 = \sqrt{4x+9}$

4)  $\sqrt{3x+22} = 4$

10)  $\sqrt{2x-6} = \sqrt{3x-14}$

5)  $\sqrt{-10+7x} = x$

11)  $-3 = \sqrt{37-3x} - x$

6)  $x = \sqrt{x+6}$

12)  $x = 5 + (3x-11)^{\frac{1}{2}}$